

NOTES:

- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A. RECORD TITLE FROM BOOK 56111, PAGE 144.
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLAN LOCATIONS OR DISAGE PLANT-INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT THE LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE THE CORRECT LOCATION OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO RELOCATE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
- THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 15-5022/COBDE BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.



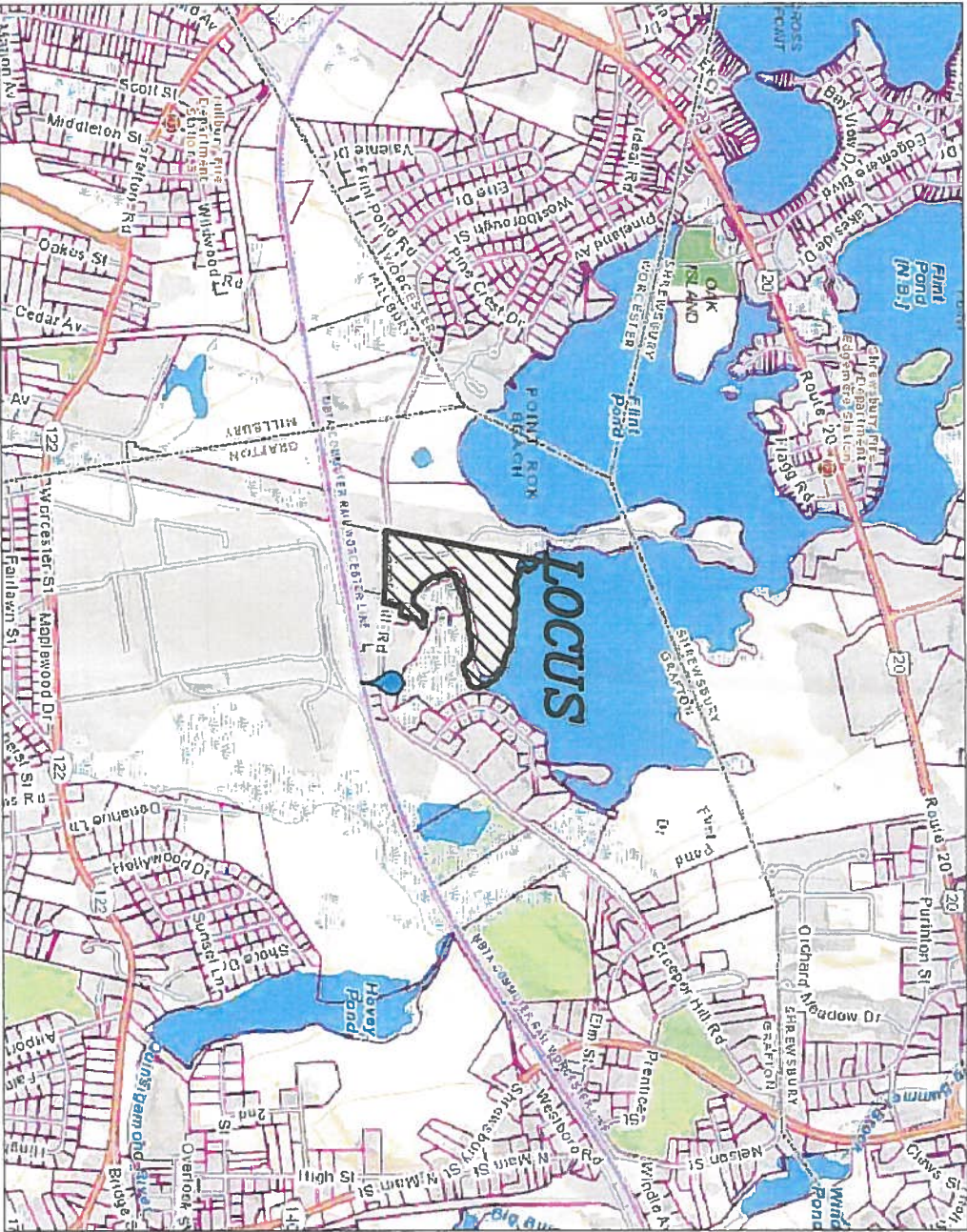
CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CALL DIG-SAFE BEFORE YOU DIG 811.

ZONING:

OLI- OFFICE/LIGHT INDUSTRIAL

ANY NON-RESIDENTIAL USE
MINIMUM AREA= 40,000 SQUARE FEET
MAXIMUM FRONTAGE = 120 FEET
SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD = 35 FEET
REAR YARD= 35 FEET
LOT COVERAGE= 40%

SITE PLAN SET
PROPOSED SITE DEVELOPMENT
104 CREEPER HILL ROAD GRAFTON, MASSACHUSETTS



FILE EXHIBIT 1
RECEIVED

NOV - 2 2016

PLANNING BOARD
GRAFTON, MA

SHEET INDEX

- COVER SHEET
SHEET C100—EXISTING CONDITIONS PLAN
SHEET C200—EROSION AND SEDIMENT CONTROL PLAN
SHEET C300 & C301—PROPOSED LAYOUT PLAN
SHEETS C400 & C401—PROPOSED GRADING PLAN
SHEETS C500 & C501—PROPOSED SITE PLAN
SHEET C600—LANDSCAPING PLAN
SHEET C700 & C701—DETAIL PLAN

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 30 ft.
(FEET) 150
30 15 0 15 30 45 60 (METERS) 40

COVER SHEET
IN
GRAFTON, MASS

PREPARED FOR:
RUSCO BROTHERS INC.
P.O. BOX 2905
FRANKHAM, MA 01703

PROPERTY OF:
104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01519

ENGINEERS & SURVEYORS:
METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
GRAFTON, MA 01702
TEL.: (508)626-0063
FAX: (508)875-6440

COVER SHEET		DATE: NOVEMBER 1, 2016
CALED BY: BTN	FIELD BK:	CAD FILE: PROP_SPE.dwg
DRAWN: BTN	PROJECT: GRP_CBE	DWG TITLE: SP110116.dwg

PROPOSED PARKING REQUIREMENTS

TRANSPORTATION INDUSTRIAL AND UTILITY USE	PARKING REQUIREMENT 1/3 SPACE PER EMPLOYEE FOR MAXIMUM SHIFT	PROPOSED FLOOR AREA/BAIYS 10 EMPLOYEES	TOTAL 13.0
TOTAL NUMBER OF REQUIRED PARKING SPACES			13.0
NUMBER OF PROPOSED EXTERIOR PARKING SPACES			16

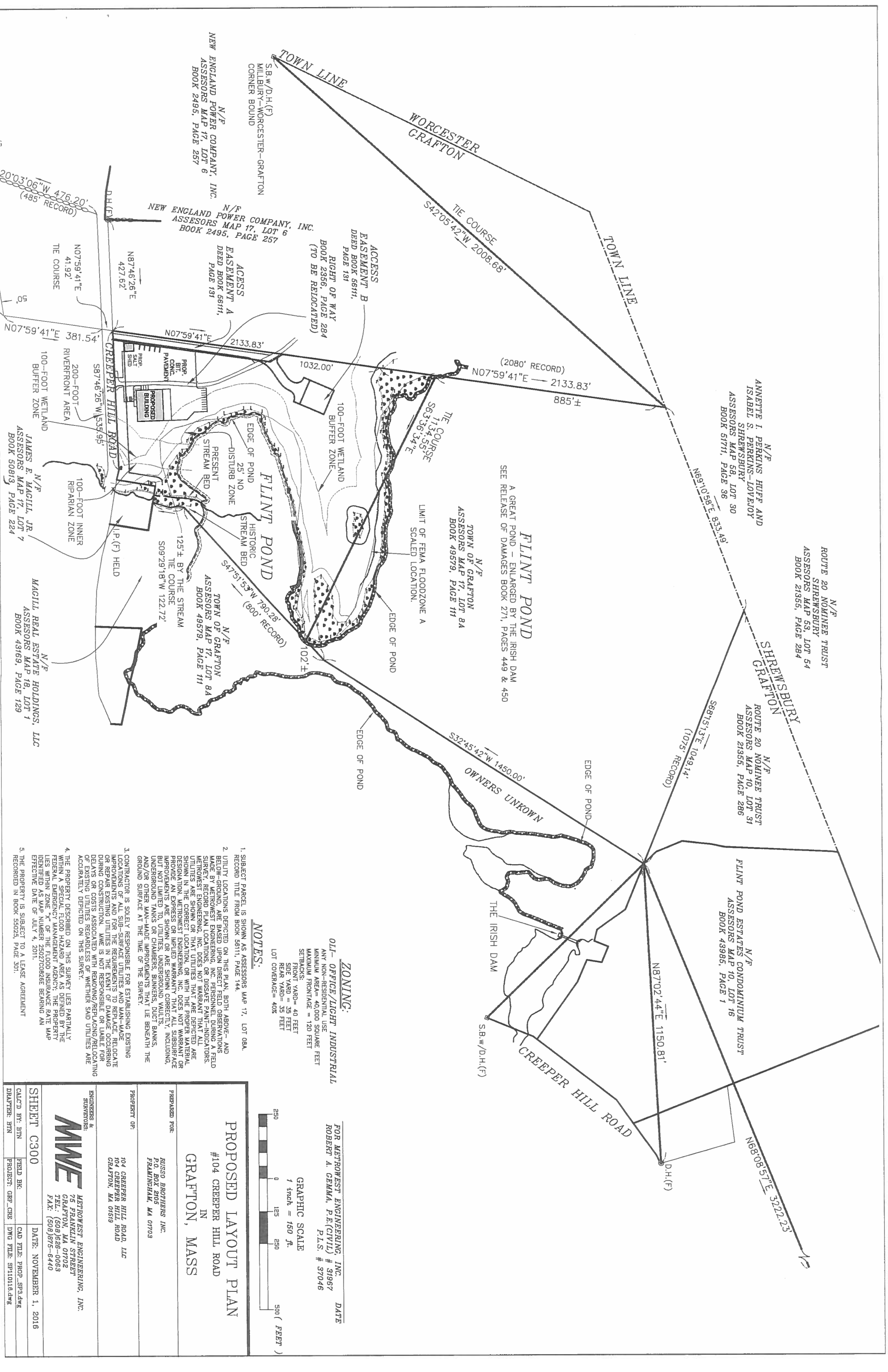
ZONING TABLE: 104 CREEPER HILL ROAD

MAP 17, LOT 8A

DESCRIPTION	REQUIRED OLI ZONE	EXISTING	PROPOSED
LOT AREA	40,000 SQ. FT. (MIN.)	656,271± SQ. FT.	656,271± SQ. FT.
LOT FRONTAGE	120 FT. (MIN.)	574.48 FT.	574.48 FT.
FRONT YARD SETBACK	40 FT. (MIN.)	N/A.	80.2 FT.
SIDE YARD SETBACK	35 FT. (MIN.)	N/A.	37.0 FT.
REAR YARD SETBACK	35 FT. (MIN.)	N/A.	135.1 FT.
MAX BUILDING HEIGHT	35 FT.	N/A.	25.0 FT.
FLOOR AREA	N/A	N/A.	12,000 SQ. FT.
FLOOR AREA RATIO	N/A	N/A.	0.018
MAX LOT COVERAGE	N/A	N/A.	13,050 SQ. FT.
BUILDING AREA	40%	9,855 SQ. FT.	76,289 SQ. FT.
OTHER IMPERVIOUS SURFACES	N/A	9,855 SQ. FT.	89,319 SQ. FT.
TOTAL IMPERVIOUS AREA	N/A	N/A.	16 SPACES
PARKING	13 SPACES	1 SPACE	1 SPACE
HANDICAP PARKING	N/A.	N/A.	0.200
LANDSCAPED OPEN SPACE SURFACE RATIO	40,000 SQ. FT. (MIN.)	593,548 SQ. FT.	593,548 SQ. FT.
UPLAND AREA	N/A.	N/A.	0.200

GRAFTON PLANNING BOARD

SITE PLAN REVIEW

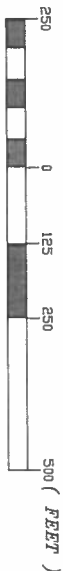


NOTES:

- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A. RECORD TITLE FROM BOOK 56111, PAGE 144.
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS. ASSESSED BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLAN LOCATIONS, OR DISAPPEARING INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, POWER LINES, CABLES, AND/OR UNDERGROUND TANKS, TANKS, PIPES, AND/OR OTHER STRUCTURES. AND/OR OTHER TANKS MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/RELOCATING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
- THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 2502700926E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

ZONING:

01- OFFICE/LIGHT INDUSTRIAL
ANY NON-RESIDENTIAL USE
MINIMUM AREA= 40,000 SQUARE FEET
MAXIMUM FRONTAGE = 120 FEET
SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD = 35 FEET
REAR YARD= 35 FEET
LOT COVERAGE= 40%



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GENMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

PROPOSED LAYOUT PLAN
#104 CREEPER HILL ROAD
IN
GRAFTON, MASS

PREPARED FOR:
RUSSO BROTHERS INC.
P.O. BOX 2105
FRAMINGHAM, MA 01703

PROPERTY OF:
104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01518

ENGINEERS & SURVEYORS:
MWE METROWEST ENGINEERING, INC.
76 FRANKLIN STREET
GRAFTON, MA 01702
TEL.: (508)528-0063
FAX: (508)875-6440

SHEET C300 DATE: NOVEMBER 1, 2016
CALCD BY: BTM FIELD BK: CAD FILE: PROP_SPC.dwg
DRAWN BY: BTM PROJECT: GRP_CRE DWG FILE: SP11018.dwg

OLI—OFFICE/LIGHT INDUSTRIAL

ANY NON-RESIDENTIAL USE
MINIMUM AREA = 40,000 SQUARE FEET
MAXIMUM FRONTAGE = 120 FEET

SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD = 35 FEET
REAR YARD= 35 FEET
LOT COVERAGE= 40%

BERM

- | | |
|--------|--------------------------|
| □ | DRAIN CATCH BASIN |
| ① | DRAIN LINE |
| ② | DRAIN MANHOLE |
| E | ELECTRIC LINE |
| —○—○—○ | FENCE |
| 2 | GAS LINE |
| X | GAS CATE |
| | GAS VALVE |
| | GLASS POST |
| 2 | HANDICAP PARKING SPACE |
| 2X | HYDRANT |
| ③ | LIGHT POST |
| ④ | NUMBER OF PARKING SPACES |
| ● | OBSERVATION WELL |
| | PAVEMENT EDGE |
| — | SEWER LINE |
| 5 | SIGN |
| ⑤ | STORM MANHOLE |
| ⑥ | TELEPHONE MANHOLE |
| 7 | TELEPHONE LINE |
| ⑧ | UTILITY MANHOLE |
| ⑨ | UTILITY POLE |
| ⑩ | WATER GATE |
| W | WATER LINE |

[illegible]

DETAIL	
TREE LOCATION	TREE CODE
	TREE DIAMETER
WG#	WHITE BIRCH
BC#	BLACK CHERRY
RM#	RED MAPLE
RO#	RED OAK
PP#	PITCH PINE
WP#	WHITE PINE

1 SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17. LOT 08A

- RECORD TITLE FROM BOOK 58111, PAGE 144.
2. UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLANT LOCATIONS, OR DISCART PAINT-INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, POLES, PIPES, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BELOW THE GROUND SURFACE AT THE TIME OF THE SURVEY.
3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS, AND FOR ANY DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
4. THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DESIGNATED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN THE SPECIAL FLOOD HAZARD AREA SHOWN ON THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 22002C00982E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
5. THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.



#104 CREEPER HILL ROAD

IN
GRAFTON, MASS

10

RUSSO BROTHERS INC.
P.O. BOX 2105
FRAMINGHAM, MA 01703

104 CREEPER HILL ROAD, LT
104 CREEPER HILL ROAD
104 CREEPER HILL ROAD

CRATTON, WA 01518

******* DISCONTINUOUS SURVEILLANCE FILE *******

ALC
ALCROW & SONS ENGINEERING, INC.
75 FRANKLIN STREET

GRAFTON, MA 01702
TEL: (508)626-0063

FAX: (508) 875-6440

11:00	DATE: NOVEMBER 1, 2016
-------	------------------------

FIELD BK:	CAD FILE: PROP_SPS.dwg
PROJECT: GRF_CRE	DWG FILE: SP110116.dwg

OLI- OFFICE/LIGHT INDUSTRIAL V

BOOK 2495,

BER

- WAT
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- X
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- WAT



1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A

5. THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

<u>CODE</u>	<u>DESCRIPTION</u>
-------------	--------------------

WHITE PINE



#104 CREEPER HILL ROAD

GRAFTON, MASS

P.O. BOX 2108
FRAMINGHAM, MA 01703

104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD

WEST ENGINEERING, INC.
75 FRANKLIN STREET

FAX: (508) 875-6440

ET C401	DATE: NOVEMBER 1, 2018
---------	------------------------

ET C401 | DATE: NOVEMBER 1, 2016

R: BTN	PROJECT: GRF_CRE	DWG FILE: SP110116.dwg
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OLI—OFFICE/LIGHT INDUSTRIAL

ANY NON-RESIDENTIAL USE
MINIMUM AREA= 40,000 SQUARE FEET
MAXIMUM FRONTAGE = 120 FEET
SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD = 35 FEET
REAR YARD= 35 FEET
LOT COVERAGE= 40%

BERM

- | | |
|---|---------------------|
| □ | DRAIN CATCH BASIN |
| D | DRAIN LINE |
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| E | ELECTRIC LINE |
| ○ | FENCE |
| ● | GAS LINE |
| M | GRAVEL |
| — | CURB |
| — | GOOD POST |
| — | HANDICAP PARKING SP |
| ② | HYDRANT |
| ③ | LIGHT POST |
| ④ | NUMBER OF PARKING |
| ⑤ | OBSERVATION WELL |
| ⑥ | PAYMENT EDGE |
| — | SEWER MANHOLE |
| ⑦ | SEWER LINE |
| ⑧ | TELEPHONE LINE |
| ⑨ | UTILITY MANHOLE |
| ⑩ | UTILITY POLE |
| ⑪ | WATER GATE |
| ⑫ | WATER LINE |

CODE	DESCRIPTION
------	-------------

DETAIL

TREE LOCATION

TREE CODE

TREE DIAMETER

ORGL

WHITE BIRCH
BLACK CHERRY
RED MAPLE
RED OAK
PITCH PINE

WB#
BC#
RM#
RO#
PP#

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A

- RECORDED TITLE RECORD BOOK 56111, PAGE 144.
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- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

SOIL TEST RESULTS

DTH-A (DELY-371.5)	DTH-B (DELY-372.5)	DTH-C (DELY-374.4)
0'-04" FILL	0'-08" FILL 16"-16" A SANDY LOAM 19"-82" B COARSE SAND 62"-118" C2 FINE SAND	0'-34" FILL 24"-30" A SANDY LOAM 30"-44" B SANDY LOAM 44"-112" C1 FINE SAND
NO MOTTLING, NO WEeping WATER REUSAL #64, RUBED PAVEMENT ESTIMATED HIGH WATER=364.5'	POSSIBLE MOTTLING #78" NO STANDING OR WEeping WATER NO REUSAL ESTIMATED HIGH WATER=368.2'	NO MOTTLING NO STANDING OR WEeping WATER NO REUSAL ESTIMATED HIGH WATER=392.1'
DTH-D (DELY-388.1)	DTH-E (DELY-370.7)	DTH-F (DELY-497)
0'-18" FILL 18"-72" C1 MEDIUM SAND 72"-106" C2 SILT LOAM	0'-08" FILL 90"-116" C1 MEDIUM SAND	18"-58" FILL 38"-48" C1 MEDIUM LOAM 48"-82" C1 MED. SAND 82"-122" C2 SANDY LOAM 72"-92" C2 COARSE SAND
MOTTLING #72, 7.5MB/8 (10%) NO STANDING OR WEeping WATER NO REUSAL ESTIMATED HIGH WATER=382.1'	2.5' 5/2 2.5' 5/3	10' 5/8 10' 5/8 10' 5/8 2.5' 4/3 2.5' 4/3
	MOTTLING #90" NO REUSAL ESTIMATED HIGH WATER=24.2'	MOTTLING #62, 7.5MB/8 NO STANDING OR WEeping WATER REUSAL #92Z, LEDGE ESTIMATED HIGH WATER=317

SOIL TEST RESULTS

DEPTH (ELEV=369.67)	DEPTH (ELEV=370.87)	DEPTH (ELEV=368.77)
0'-0"	0'-18" FILL	0'-0"
0'-4"	16'-60" C1 MEDIUM SAND	0'-75"
8'-8"	2.57 5/3	6'-75"
9'-4"	10TR 5/6	A SANDY LOAM
10'-0"	2.57 5/3	2.57 5/4
24'-102"	C1 LOAMY SAND	62'-116"
		62'-116"
		C3 FINE SAND
		2.57 5/3
NO MOTTING	NO MOTTING	POSSIBLE MOTTING 600"
NO STANDING OR WEeping WATER	NO STANDING OR WEeping WATER	NO STANDING OR WEeping WATER
REUSAL @ 102" Boulders	NO REUSAL	NO REUSAL
ESTIMATED HIGH WATER=365.11'	ESTIMATED HIGH WATER=360.6'	ESTIMATED HIGH WATER=359.2'

INSPECTOR: BRIAN SZCZURKO, GRAFTON BOARD OF HEALTH

PERCOLATION			
NO.	DEPTH	RATE	DATE
PT-1	48"	3 MPH	06/22/16/BN
PT-2	52"	2.4MPH	06/22/16/BN
			BS

SOL TEST RESULTS	
DH-4 (ELV-364.5) 0'-6" 6"-16" 18'-36" C1 MEDIUM SAND	DH-5 (ELV-364.3) 0'-6" 6"-12" 12'-66" B SANDY LOAM C1 MEDIUM SAND

FLINT POND

B1: BRIAN NELSON, SOIL EVALUATION, P.O. 078, PMB. 27
INSPECTOR: JEFFREY WALSH, GRAVES ENGINEERING

PROPOSED SITE PLAN

GRAFTON, MASS

PROPERTY OF:
104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
CRATTON, MA 01618

SURVEYORS:
NETROTEST ENGINEERING, INC.

DATE	NG, INC.	(L) # 31967	S. # 37046

THE

(FEST)

1000

5 (LETTERS) 50

ZONING:

01- OFFICE / LIGHT INDUSTRIAL

ANY NON-RESIDENTIAL USE
MINIMUM AREA= 40,000 SQUARE FEET
MAXIMUM FRONTAGE= 120 FEET

SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD= 35 FEET
REAR YARD= 35 FEET
LOT COVERAGE= 40%

LEGEND

- BERM
- DRAIN CATCH BASIN
- DRAIN LINE
- DRAIN MANHOLE
- ELECTRIC LINE
- FENCE
- GAS LINE
- GRASS
- GRASS POST
- HANDICAP PARKING SPACE
- LIGHTPOST
- NUMBER OF PARKING SPACES
- OBSERVATION WELL
- PAVEMENT EDGE
- SEWER LINE
- SIGN
- SEWER MANHOLE
- TELEPHONE MANHOLE
- UTILITY MANHOLE
- UTILITY POLE
- WATER GATE
- WATER LINE

TREE DESCRIPTION LEGEND

CODE	DESCRIPTION	DETAIL
WB	WHITE BIRCH	TREE LOCATION
BC	BLACK CHERRY	TREE QUANTITY
RM	RED MAPLE	
PP	PITCH PINE	
WP	WHITE PINE	

NOTES:

- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A.
- RECORD TITLE FROM BOOK 58111, PAGE 144.
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- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

PROPOSED PLANTING SCHEDULE

STREET TREES

SYMBOL	SPECIES	QUANTITY	SIZE
(P)	GREEN ASH (FRAXINUS PENNSYLVANICA)	4	2.5" CALIPER
(Q)	PIN OAK (QUERCUS PALUSTRIS)	6	2.5" CALIPER
(S)	SUGAR MAPLE (ACER SACHCHARIN)	2	2.5" CALIPER

SHRUBS

SYMBOL	SPECIES	QUANTITY	SIZE
(CA)	DOGWOODS (CORNUS AMOMUM)	12	6" HIGH
(IG)	INKBERRY (ILEX GLABRA)	12	6" HIGH

WETLAND BUFFER ZONE PLANTINGS

SYMBOL	SPECIES	QUANTITY	SIZE
(H)	WITCH HAZEL (HAMAMELIS VIRGINIANA)	8	6" HIGH
(V)	HIGH BUSH CRANBERRY (VIBURNUM TRILLOBIUM)	8	6" HIGH



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 81987
P.L.S. # 37046

PROPOSED LANDSCAPING PLAN
#104 CREEPER HILL ROAD
IN
GRAFTON, MASS

PREPARED FOR:
FUSCO BROTHERS INC.
P.O. BOX 2105
FRAMINGHAM, MA 01703

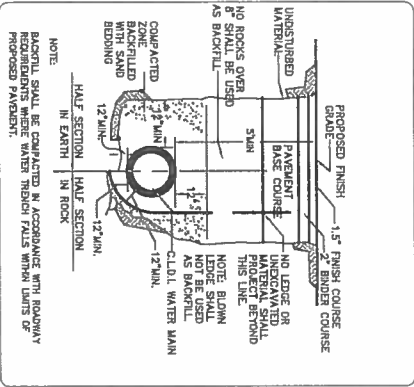
PROPERTY OF:
104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01519

ENGINEERS & SURVEYORS:
MWE METROWEST ENGINEERING, INC.
76 PRAKIN STREET
GRAFTON, MA 01702
TEL: (508) 828-0068
FAX: (508) 878-6440

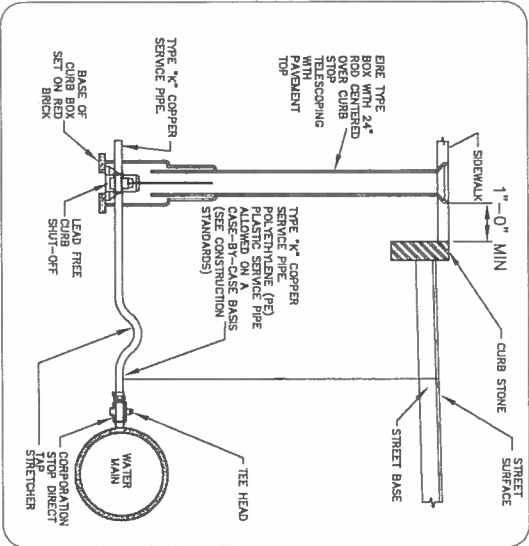
SHEET C600 DATE: NOVEMBER 1, 2016

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DRAWN BY: BTN PROJECT: GRP_CRE DWG FILE: SF1016.dwg

WATER MAIN TRENCH DETAIL



TYPICAL WATER SERVICE CONNECTION



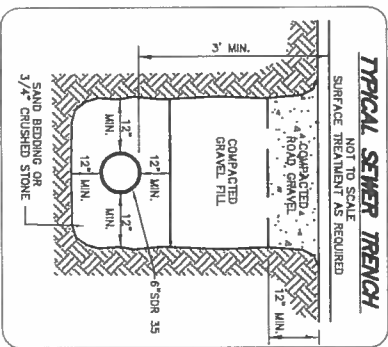
UTILITY NOTES

- 1.) ALL WORK MUST BE INSPECTED BY A DEPARTMENT OF PUBLIC WORKS UTILITY INSPECTOR, TO SCHEDULE A PRE-CONSTRUCTION MEETING OR INSPECTION CALL GRAFTON D.P.W. 48-HOURS PRIOR TO THE START OF WORK.
- 2.) ANY PROPOSED SURFACE OPENINGS AND EXCAVATION WORK WITHIN THE TOWN RIGHT OF WAY LIMITS WILL REQUIRE A STREET OPENING PERMIT (SOP) WITH THE WORK CONDUCTED UNDER SAID PERMIT BEING PERFORMED IN COMPLIANCE WITH THE TOWN OF GRAFTON SOP POLICY.
- 3.) ALL DRAINAGE, WATER AND SEWER WORK (OUTSIDE OF THE BUILDING FOOTPRINT) SHALL BE PERFORMED BY A LICENSED GRAFTON DRAINLAYER.
- 4.) A TRENCH OPENING PERMIT (TOP) SHALL BE OBTAINED PRIOR TO THE EXCAVATION OF ANY TRENCH. A TRENCH IS DEFINED AS A HOLE 18" OR DEEPER AND 500' OR LONGER, WITH WALLS AS MEASURED FROM THE BOTTOM.
- 5.) ALL PROPOSED UTILITY SERVICE WORK SHALL COMPLY WITH THE TOWN OF GRAFTON D.P.W. CONSTRUCTION STANDARDS.
- 6.) CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES. LME IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVALS/REPLACING/RELOCATING OF EXISTING UTILITIES.

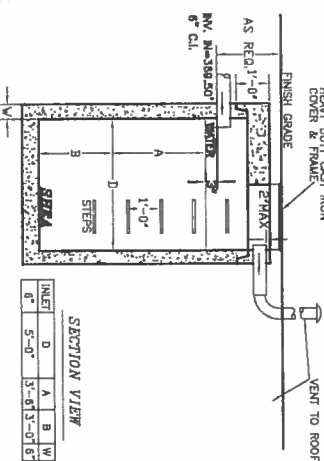
PAVEMENT AND BASE MATERIALS AND INSTALLATION

- 1.) ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH THE TOWN OF GRAFTON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2.) BITUMINOUS PAVING SHALL NOT BE PLACED WHEN AMBIENT TEMPERATURE IS BELOW 40-DEGREES FAHRENHEIT, OR WHEN THERE IS FROST IN THE BASE, OR WHEN WEATHER CONDITIONS ARE UNSUITABLE IN ANY WAY.
- 3.) CONTRACTOR SHALL SANICUT ALL EXISTING TRENCHES AND EXCAVATIONS WHEN LOCATED WITHIN LIMITS OF EXISTING PAVEMENT. PAVEMENT BREAKER MAY BE USED FOR INITIAL EXCAVATION AND A SAWCUT MAY BE EMPLOYED TO PROVIDE NEATER CUT FOR TRENCH PRIOR TO PLACEMENT OF NEW PAVEMENT.
- 4.) SAWCUTS SHALL EXTEND COMPLETELY THROUGH BINDER AND TOP COURSE LAYERS.
- 5.) PAVEMENT EDGES SHALL BE TRIMMED AND CLEANED FOR A NEAT VERTICAL FACE FREE OF LOOSE MATERIALS AND DEBRIS.
- 6.) CONTRACTOR SHALL EXERCISE CARE TO PREVENT OR MINIMIZE DAMAGE TO EXISTING PAVEMENT SURROUNDING EXCAVATION WORK.
- 7.) BACKFILL IN TRENCHES SHALL BE IN ACCORDANCE WITH SPECIFIC UTILITY TRENCH REQUIREMENTS. BACKFILL MATERIAL IN TRENCHES SHALL CONSIST OF GRANULAR MATERIAL, 1/2-INCH TESTS AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO DESIGNATION T99 COMPACTION TEST METHODS.
- 8.) BROKEN PAVEMENT, LARGE STONES, ROOTS AND OTHER DEBRIS SHALL NOT BE USED IN TRENCH BACKFILL.
- 9.) PERMANENT PAVEMENT SHALL CONSIST OF A TOP COURSE LAYER OF NOT LESS THAN TWO-INCHES (2") AND A BINDER COURSE LAYER OF NOT LESS THAN THREE-INCHES (3") AFTER COMPACTION. PAVEMENT SHALL BE MIXED IN ACCORDANCE WITH MASSDOT SPECIFICATION M311.03 (TABLE A).
- 10.) PAVEMENT SHALL BE COMPACTED AND ROLLED BY AN OSCILLATING ROLLER WITH A WEIGHT OF NOT LESS THAN 10- TONS. ROLLER SHALL MAKE AT LEAST FOUR PASSES OVER ALL NEWLY PLACED PAVEMENT.
- 11.) ROLLER SHALL NOT EXCEED A SPEED OF 3 MILES PER HOUR DURING ROLLING OPERATIONS TO ENSURE PROPER COMPACTION. ANY RIDGES, INDENTATIONS SHALL BE ROLLED ADDITIONALLY UNTIL THEY ARE REMOVED.
- 12.) GRAVEL BASE MATERIAL SHALL CONSIST OF A LAYER OF EITHER DENSE GRADE CRUSHED STONE COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION W201.77 OR GRAVEL BORROW COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION W103.1.
- 13.) BASE MATERIALS SHALL BE PLACED IN LIFTS NOT TO EXCEED EIGHT-INCHES (8") AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION T99.
- 14.) SUITABLE SUBBASE MATERIALS SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION T99.
- 15.) UNSUITABLE SUBBASE MATERIAL SHALL BE REMOVED AND REPLACED WITH MATERIAL IN CONFORMANCE WITH MASSDOT SPECIFICATION M1.02.0, SPECIAL BORROW OR SPECIFICATION M2.03.0 FOR GRAVEL BORROW.
- 16.) IMPORTED SUBBASE MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING TWELVE-INCHES AND COMPACTED IN TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION T99.

TYPICAL SEWER TRENCH

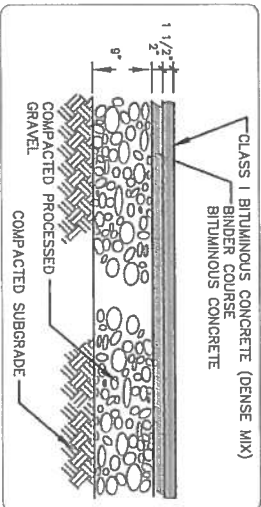


OIL & GAS SEPARATOR

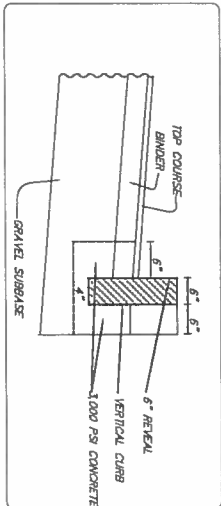


- NOTE :
1. CONCRETE : 4,000 PSI MINIMUM AFTER 28 DAYS.
 2. TANK TO HAVE STORAGE CAPACITY OF 2,000 GALLONS.
 3. BURN, REIN SECTION JOINT CONFORMS TO LATEST ASTM C443 SPEC.
 4. STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEP CONFORM TO LATEST ASTM C478 SPEC.
 5. PIPE NOT SUPPLIED.
 6. 0 CONE SECTION AVAILABLE IN 4'-0" ID. ONLY.
 7. FOR INLETS LARGER THAN 10" THE DESIGN & DIMENSION WILL BE DETERMINED FOR EACH PARTICULAR CASE.

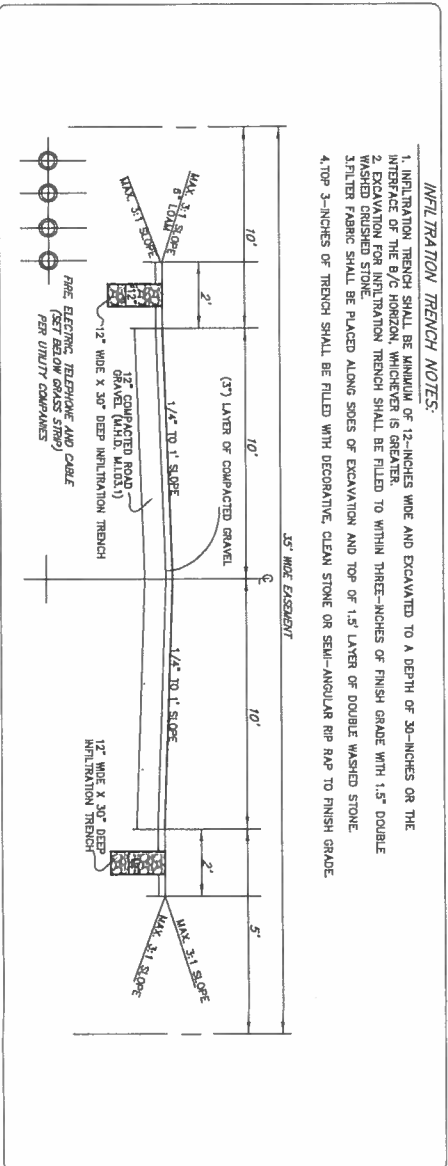
BITUMINOUS CONCRETE PAVEMENT



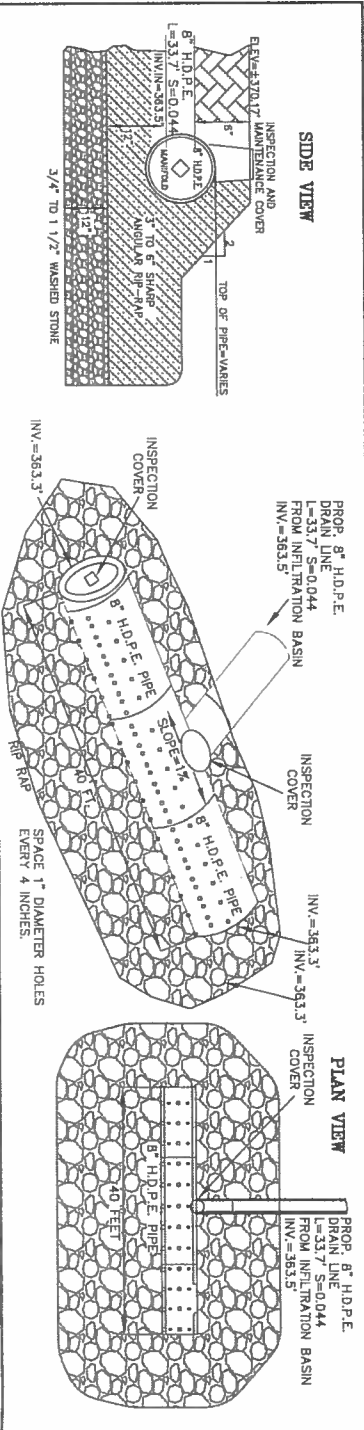
VERTICAL GRANITE AND CONCRETE CURB



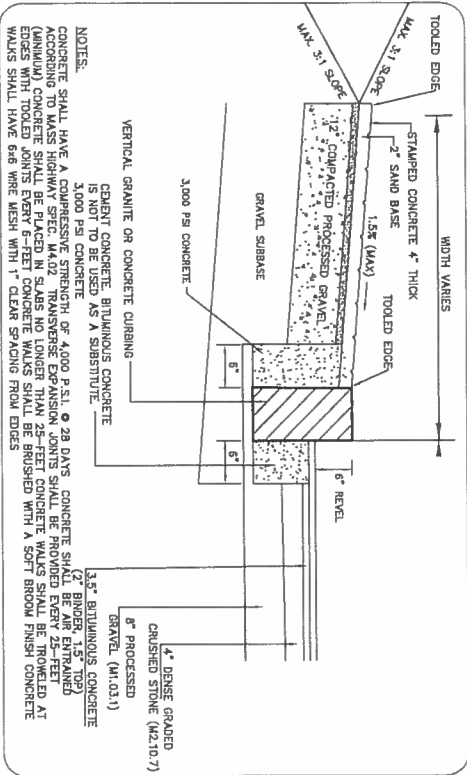
TYPICAL EASEMENT ACCESS DRIVE CROSS SECTION



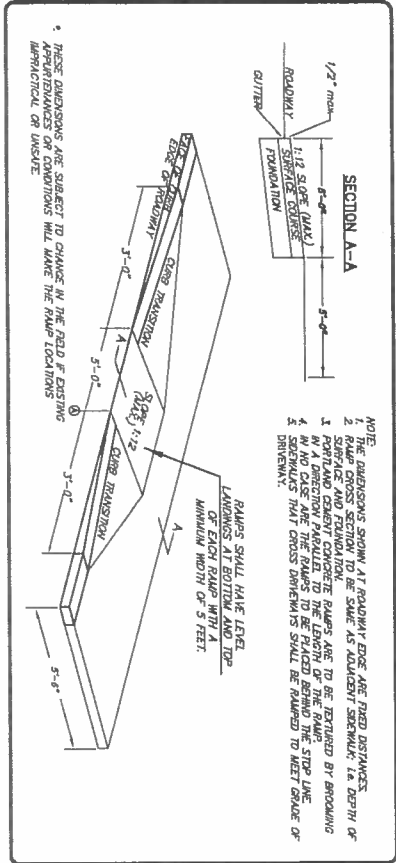
LEVEL SPREADER FLOW MANIFOLD DETAIL



VERTICAL GRANITE CURB & CONCRETE SIDEWALK DETAIL



CONCRETE RAMP DETAIL



PREPARED FOR:
RUSCO BROTHERS INC.
104 CREEPER HILL ROAD
GRAFTON, MA 01519

PROPERTY OF:
104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01519

DETAILS PLAN
IN
#104 CREEPER HILL ROAD
GRAFTON, MASS

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GENNA, P.E. # 31967 (CIVIL)

DATE:
THE ENDORSEMENT OF THE PLANNING BOARD SHOULD NOT BE CONSTRUED TO BE A DETERMINATION OF CONFORMANCE WITH ZONING REGULATIONS.

GRAFTON PLANNING BOARD
SITE PLAN REVIEW UNDER SECTION W2.02

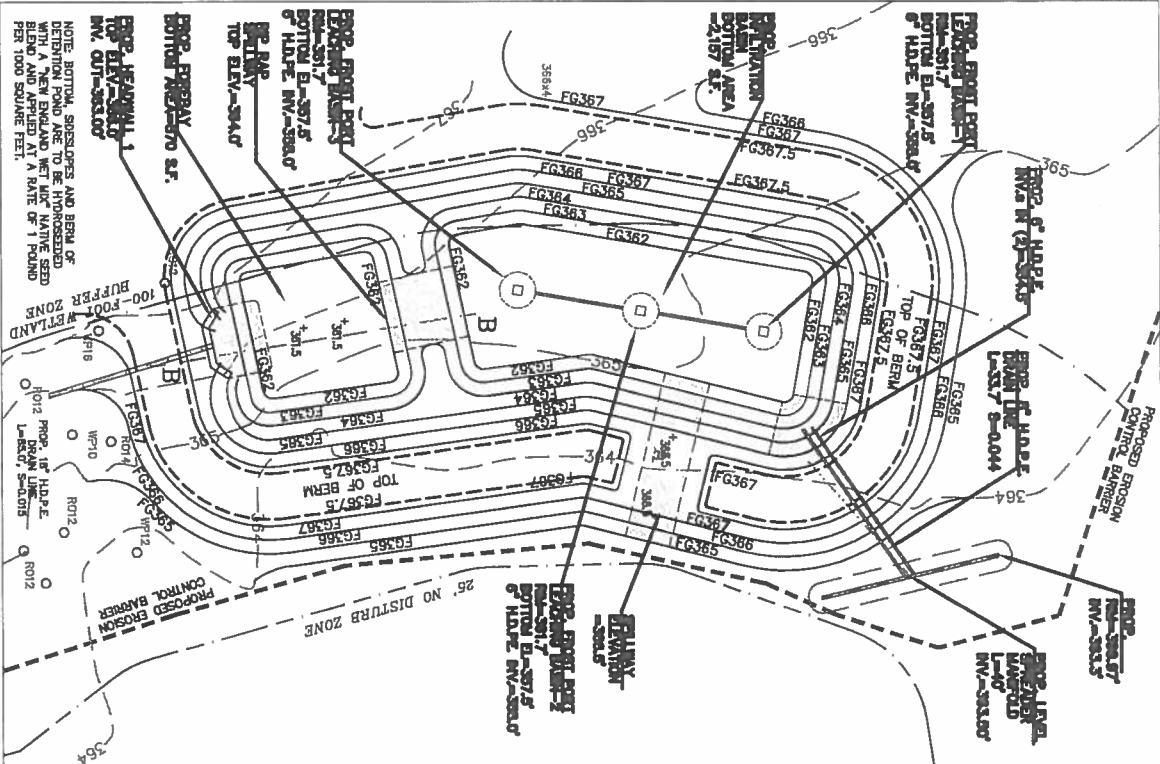
ENGINEERS & SURVEYORS:
METROWEST ENGINEERING, INC.

75 FRANKLIN STREET
GRAFTON, MA 01702
TEL.: (508) 628-0063
FAX: (508) 875-6440

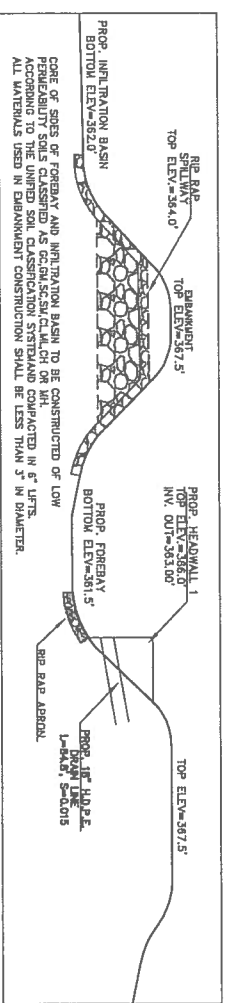
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PROJECT: GRP_C02
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DATE: NOVEMBER 1, 2016
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SEDIMENT FOREBAY AND INFILTRATION BASIN DETAIL

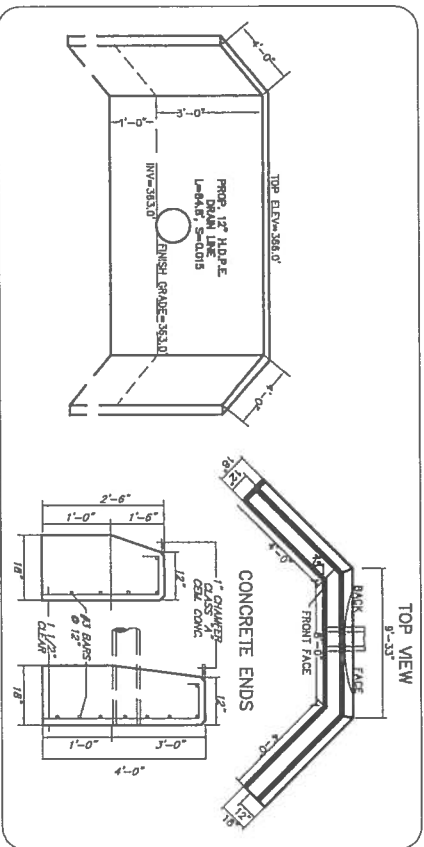
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SEDIMENT FOREBAY PROFILE B-B
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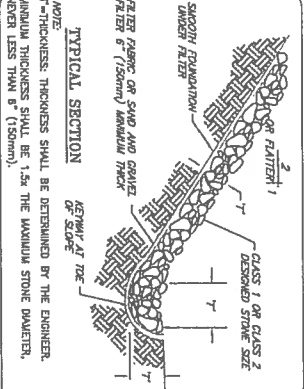


CONCRETE HEADWALL-1 DETAIL
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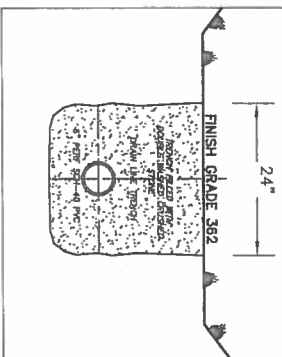
RIP RAP PROTECTION AT POND INLET AND SPILLWAY

NOT TO SCALE



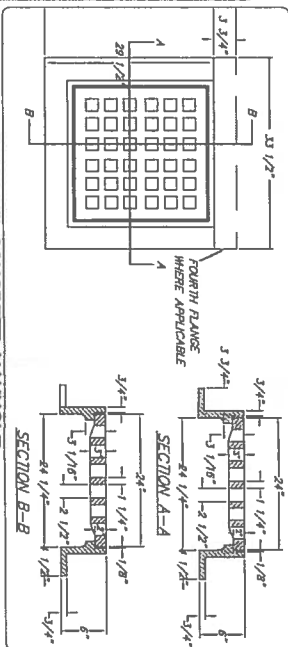
INFILTRATION BASIN STONE TRENCH

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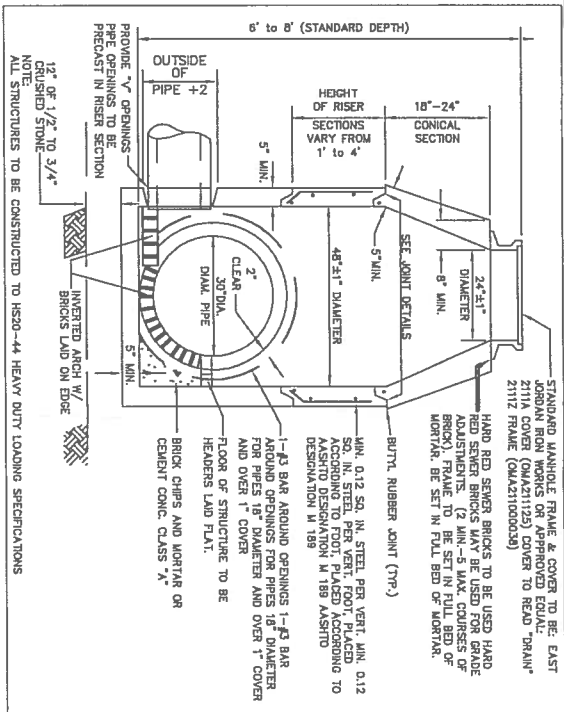
SQUARE CATCH BASIN FRAME & GRADE

NOT TO SCALE



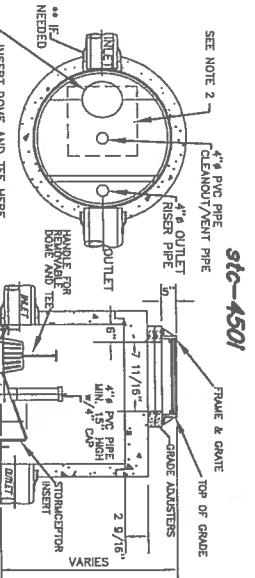
PRECAST CONCRETE MANHOLE

NOT TO SCALE



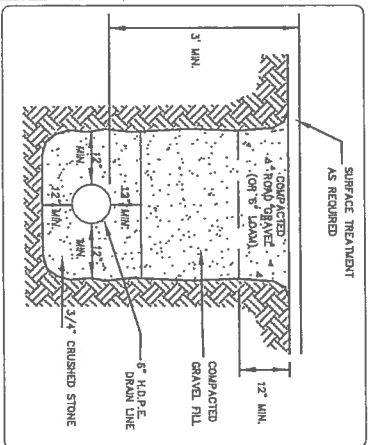
STORMCEPTOR

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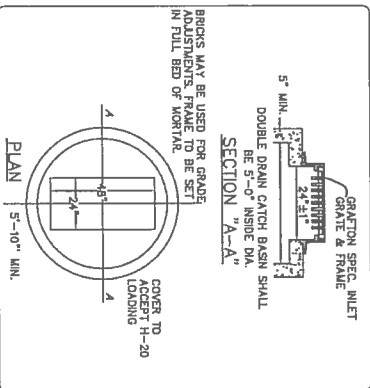
TYPICAL DRAIN LINE TRENCH

NOT TO SCALE



DOUBLE GRADE CATCH BASIN TOP

NOT TO SCALE



DRAINAGE MATERIALS NOTES:

PRECAST CONCRETE DRAIN MANHOLE MATERIALS AND INSTALLATION

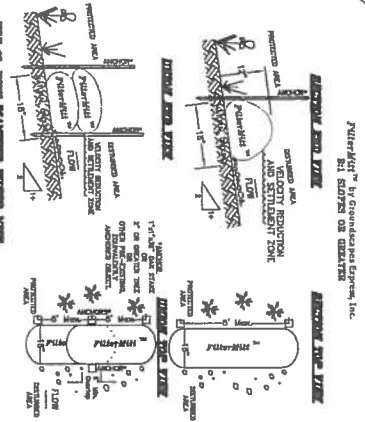
- 1) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS, THE TOWN OF GRAFTON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2) STORMCEPTOR UNITS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
- 3) FILTER FABRIC SHALL BE 140N (THICK) NONWEAVE OR APPROVED EQUAL.
- 4) MANHOLES SHALL BE CONSTRUCTION OF REINFORCED PRECAST CONCRETE BASE SECTION, BARREL SECTION AND DOSE SECTION MEETING THE REQUIREMENTS OF ASTM C79 AND ASPHO M199. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I.
- 5) IN SECTIONS WHERE TYPICAL TOLERANCE DOES NOT PERMIT A CORNER FOR SECTION A PRECAST CONCRETE MANHOLE SHALL BE USED.
- 6) MANHOLES SHALL HAVE A MINIMUM OPENING OF 26-INCHES AND A MINIMUM INSIDE DIAMETER OF FOUR-FEET (4').
- 7) MANHOLES SHALL HAVE TONGUE AND GROOVE JOINTS BETWEEN SECTIONS THAT ARE MORTARED OR SEALED WITH BUTYL RUBBER SEALANTS.
- 8) PIPE INLETS AND OUTLETS SHALL BE SEALED WITH MORTAR OR RUBBER SEALANTS OR BOOT TYPE CONNECTIONS.
- 9) DRAIN MANHOLES SHALL BE PLACED ON A LAYER OF COMPACTED, LEVEL, BEDDING MATERIAL NOT LESS THAN SIX-INCHES IN HEIGHT.
- 10) MANHOLE SECTIONS SHALL BE CAREFULLY PLACED SO THAT ALL SECTIONS ARE LEVEL AND PLUMB.
- 11) EXCAVATION AROUND THE MANHOLE STRUCTURES SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH (12") LIFTS WITH SUITABLE MATERIALS.
- 12) ROAD BASE MATERIAL AND PAVEMENT PREPARATION MATERIALS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS.
- 13) MANHOLE ACCESS FRAME AND COVER SHALL CONSIST OF EAST JORDAN RIONWORKS 2111A/21112 FRAME AND COVER.
- 14) FRAME AND COVER SHALL BE ADJUSTED TO FINISH GRADE USING LAYERS OF MORTAR AND BRICK.
- 15) FRAME AND COVERS SHALL MEET ASTM A888 A886 A886 FROM CLASS 20, GREY CAST IRON.

PRECAST CONCRETE DRAIN CATCH BASIN MATERIALS AND INSTALLATION

- 1) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS, THE TOWN OF GRAFTON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2) ALL CATCH BASINS SHALL HAVE A HOOD OF AT LEAST FOUR- FEET (48-INCHES) BELOW THE INVERT OF THE OUTLET PIPE AND SHALL HAVE A HOOD ON OUTLET PIPES.
- 3) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
- 4) CATCH BASINS SHALL BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE BASE SECTION, BARREL SECTION AND DOSE SECTION MEETING THE REQUIREMENTS OF ASTM C79 AND ASPHO M199. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I.
- 5) IN CASES WHERE VERTICAL TOLERANCE DOES NOT PERMIT A CORNER TOP SECTION, A PRECAST CONCRETE FLAT SECTION MAY BE USED.
- 6) CATCH BASINS SHALL MEET OR EXCEED HS-20 LOADING REQUIREMENTS.
- 7) CATCH BASINS SHALL HAVE A MINIMUM OPENING OF 26-INCHES AND A MINIMUM INSIDE DIAMETER OF FOUR- FEET (4').
- 8) CATCH BASINS SHALL HAVE TONGUE AND GROOVE JOINTS BETWEEN SECTIONS THAT ARE MORTARED OR SEALED WITH BUTYL RUBBER SEALANTS.
- 9) PIPE INLETS AND OUTLETS SHALL BE SEALED WITH MORTAR OR RUBBER SEALANTS OR BOOT TYPE CONNECTIONS.
- 9) DRAIN MANHOLES SHALL BE PLACED ON A LAYER OF COMPACTED, LEVEL, BEDDING MATERIAL NOT LESS THAN SIX-INCHES IN HEIGHT.
- 10) CATCH BASIN SECTIONS SHALL BE CAREFULLY PLACED SO THAT ALL SECTIONS ARE LEVEL AND PLUMB.
- 11) EXCAVATION AROUND THE MANHOLE STRUCTURED SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH (12") LIFTS WITH SUITABLE MATERIALS.
- 12) ROAD BASE MATERIAL AND PAVEMENT PREPARATION MATERIALS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS.
- 13) FRAME AND COVER SHALL BE ADJUSTED TO FINISH GRADE USING LAYERS OF MORTAR AND BRICK.

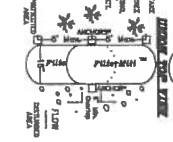
EROSION CONTROL BARRIER

NOT TO SCALE



DOUBLE GRADE CATCH BASIN TOP

NOT TO SCALE



R.I.P.E. DRAIN PIPE MATERIALS AND INSTALLATION

- 1) ALL PIPE SHALL CONFORM TO HASTSOT SECTION M5.03.10.
- 2) PIPE SHALL BE SMOOTH INTERIOR WALL AND CORRUGATED EXTERIOR WALL AND SHALL BE BELL AND SPIGOT CONNECTION.
- 3) ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN PLANS, THE TOWN OF GRAFTON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 4) ALL PIPE SHALL SUPPORT AN HS-20 LIVE LOAD WITH A MAXIMUM DEFLECTION OF 5% OF THE PIPE DIAMETER.
- 5) ALL PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN POLYETHYLENE COMPOUNDS WHICH SHALL BE TESTED TO MEET THE REQUIREMENTS OF ASTM D2212.
- 6) ALL PIPE SHALL BE TESTED TO MEET THE REQUIREMENTS OF ASTM D2212.
- 7) PIPE BEDDING MATERIAL SHALL BE PLACED TO A DEPTH OF NO LESS THAN SIX-INCHES BELOW THE INVERT OF THE PIPE.
- 8) TRENCHES FOR DRAIN LINES SHALL PROVIDE MINIMUM OF TWELVE-INCHES (12") OF HORIZONTAL CLEARANCE FROM SIDES OF PIPE TO EDGE OF TRENCH.
- 9) INSULATION SHALL BE PLACED AROUND THE PIPE TO A DEPTH OF TWELVE-INCHES ABOVE THE TOP OF PIPE.
- 10) WATER TIGHT JOINTS SHALL BE USED ON ALL PIPES IN ACCORDANCE WITH ASTM D2212, PIPE JOINTS SHALL BE BELL AND SPIGOT WITH EPITOMERIC RUBBER GASKETS MEETING OR EXCEEDING ASTM F477.
- 11) PIPE BEDDING MATERIAL OR 3/4\"/>
- 12) MATERIAL FOR BACKFILLING THE REMAINDER OF THE TRENCH, PAVEMENT AND PAVEMENT BASE MATERIAL EXCLUDED, SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH LIFTS WITH SUITABLE MATERIAL, WITH NO STONES GREATER THAN FOUR-INCHES IN DIAMETER. MATERIAL SHOULD BE FREE OF GRANKLES AND DEBRIS WHEN COMPACTED WITH SIX-INCHES (6") OF LOAD AND SEED IN NON PAVED AREAS AND PREPARED IN ACCORDANCE WITH PAVEMENT STRUCTURE IN PAVED AREAS.

GRAFTON PLANNING BOARD

SITE PLAN REVIEW UNDER SECTION IV.2.0

THE ENDORSEMENT OF THE PLANNING BOARD SHOULD NOT BE CONSTRUED
DUB) BE A DETERMINATION OF CONFORMANCE WITH ZONING REGULATIONS.

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GELMA, P.E. #19867 (CIVIL)

DETAILS PLAN
IN
#104 CREEPER HILL ROAD
GRAFTON, MASS

PREPARED FOR:
RUSSO BROTHERS INC.
P.O. BOX 2805
Framingham, MA 01703

PROPERTY OF:
104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01519

ENGINEERS &
SURVEYORS:
METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
GRAFTON, MA 01702
TEL.: (508)628-0063
FAX: (508)875-6440

SHEET C701
CALCD BY: BTN
PROJECT: GPF_CBE
DATE: NOVEMBER 1, 2016
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